

Printing & Packaging Industrial Coatings

Technical Data Sheet

Tinuvin® 477



Product Description

Tinuvin® 477 is a liquid, high performance UV absorber developed for solventborne and liquid UV curable coatings. Based on a red shifted Tris-Resorcinol-Triazine chromophore, it is suited for the protection of UVA range sensitive substrates or ingredients.

Key Features & Benefits

- Hydroxyphenyl-triazine UV absorber with high extinction in the UV-A range
- Excellent photo-permanence
- Minimal interaction with metal catalysts and amine crosslinkers

Chemical Composition

Hydroxy-phenyl-s-triazine UV absorber with 18-20% 2-methoxy-1-propyl-acetate

Properties

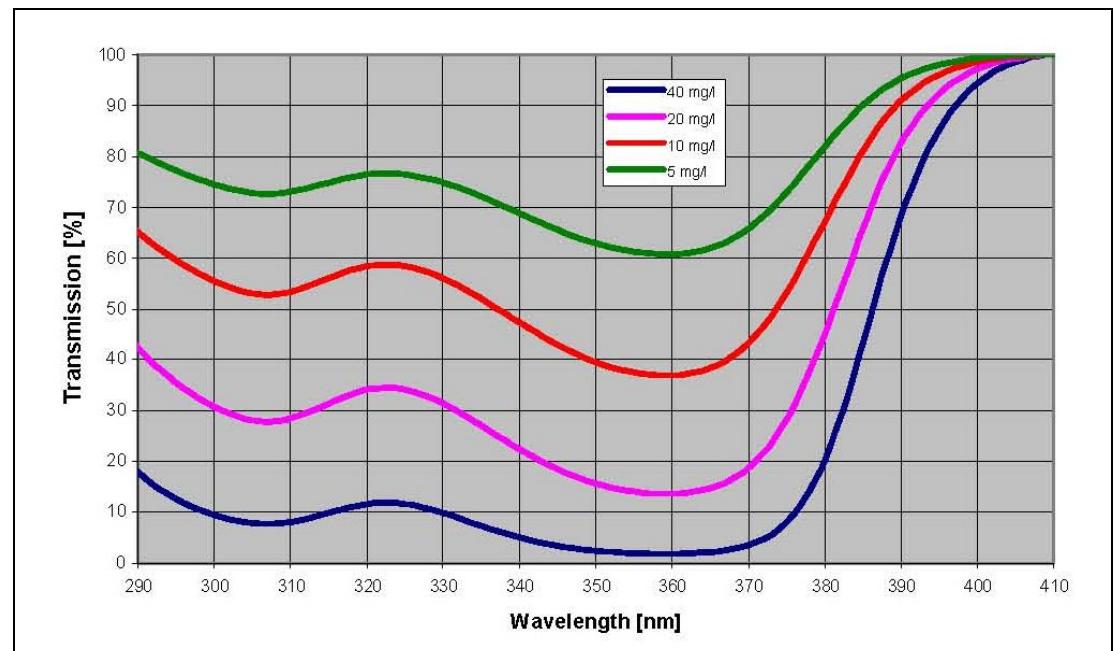
Typical Properties

Appearance	orange – brown liquid
Dynamic Viscosity at 20°C	2,100 cps
Density at 20°C	1.08 g/cm ³

Miscibility at 20°C (g/100 g solution):	Tinuvin® 477 is miscible to more than 50% with most commonly used paint solvents. Water solubility is less than 0.01%.
--	--

These typical values should not be interpreted as specifications.

UV Transmission Spectra (cell thickness = 1 cm)



Applications

Tinuvin® 477 is a liquid, high performance UV absorber developed for solventborne and liquid UV curable coatings. Its high thermal stability and photo-permanence makes it suitable for coatings exposed to high bake temperatures and/or to extreme environmental conditions. It fulfills the long-term durability requirements of high performance decorative and industrial coatings.

Tinuvin® 477 is a broad band absorbing UV absorber with high extinction particularly in the UVA range (320-390 nm) designed to block UVA light from sun and artificial lighting sources and protect substrate and contents or ingredients against damage and value loss.

For indoor varnishes, it stabilizes the color of substrates such as natural or stained wood as well as tinted or printed materials. It is used for content protection in coatings on transparent packaging films, sheets and containers.

For outdoor applications, the performance provided by Tinuvin® 477 is enhanced when used in combination with HALS stabilizers such as Tinuvin® 123 or Tinuvin® 292 or with stabilizers from the Tinuvin® 5000 series.

Tinuvin® 477 is recommended for clear and pigmented systems such as:

- Exterior wood coatings and penetrating finishes (I.e. LO Alkyd based clear and pigmented systems)
- Indoor solventborne and UV cured wood coatings, waxes and wood care products
- Polishes, rejuvenators for plastics and leather
- Coatings on plastics (PC, PMMA, PET, sheets, films, bottles, packaging)
- Coatings on vinyl (displays, liners, tarpaulins)
- OVP UV blocking varnishes on prints (metal, board, paper, laminates)
- Glass coatings and glass bonding layers
- Adhesives

For waterborne systems, it is recommended to use the solvent-free aqueous Tinuvin® 477-DW dispersion (containing 20% active Tinuvin® 477). Combinations with other stabilizer dispersions, UV absorbers such as Tinuvin® 99-DW or Tinuvin® 400-DW as well as HALS such as Tinuvin® 123-DW are possible in all proportions and may help to design fine-tuned stabilizer packages and deliver optimized protection performance.

Possible interactions of Tinuvin® 477 (color change) under high pH conditions should be carefully evaluated.

The amount of Tinuvin® 477 required for optimum performance depends on film thickness and pigmentation. It should be determined by a series of trials covering a concentration range.

Recommended concentrations	For Indoor Applications:	1 – 3 %	Tinuvin® 477 (alone or in blend w/ UVA as Tinuvin® 99-2 or Tinuvin® 400)
	For Exterior Applications:	1 – 3 % + 1 – 3 %	Tinuvin® 477 Tinuvin® 123, 5100, 5060, or 5050

(concentrations are based on weight % of binder solids)

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet Tinuvin® 477.

Important

While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, they are provided for guidance only. Because many factors may affect processing or application/use, BASF recommends that the reader make tests to determine the suitability of a product for a particular purpose prior to use. **NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESCRIPTIONS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.** In no case shall the descriptions, information, data or designs provided be considered a part of BASF's terms and conditions of sale. Further, the descriptions, designs, data, and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data or information given or results obtained all such being given and accepted at the reader's risk.

Tinuvin is a registered trademark of BASF Group.

© BASF Corporation, 2016



Responsible Care®
Good Chemistry at Work

BASF Corporation is fully committed to the Responsible Care® initiative in the USA, Canada, and Mexico.

For more information on Responsible Care® go to:

U.S.: www.basf.us/responsiblecare_usa

Canada: www.basf.us/responsiblecare_canada

México: www.basf.us/responsiblecare_mexico

U.S & Canada

BASF Corporation
24710 W Eleven Mile Road
Southfield, MI 48033
ph: 1(800) 231-7868
fax:1(800) 392-7429
Email: Custserv_charlotte@basf.com
Email: edtech_info@basf.com
www.basf.us/dpsolutions

Mexico

BASF Mexicana, S.A. de C.V.
Av. Insurgentes Sur # 975
Col. Ciudad de los Deportes
C.P. 03710
Mexico, D.F.
Phone: (52-55) 5325-2756
Fax: (52-55) 5723-3011
Fax: (52-55) 56-11-48-97